

0590
0530

9



OIKE

RAW SEQUENCE LISTING

DATE: 06/04/2002

PATENT APPLICATION: US/10/025,003

TIME: 12:53:42

Input Set : A:\BB1077uscnt seq listing.txt

Output Set: N:\CRF3\06042002\J025003.raw

ENTERED

3 <110> APPLICANT: Hitz, William
 4 Sebastian, Scott
 5 Grace, John
 6 Streit, Leon
 8 <120> TITLE OF INVENTION: SOYBEAN PLANT PRODUCING SEEDS WITH REDUCED LEVELS OF
 RAFFINOSE
 9 SACCHARIDES AND PHYTIC ACID
 11 <130> FILE REFERENCE: BB-1077-C
 C--> 13 <140> CURRENT APPLICATION NUMBER: US/10/025,003
 C--> 14 <141> CURRENT FILING DATE: 2002-05-07
 16 <150> PRIOR APPLICATION NUMBER: 08/835,751
 W--> 17 <151> PRIOR FILING DATE: APRIL 8, 1997
 19 <150> PRIOR APPLICATION NUMBER: PCT/US98/06822
 W--> 20 <151> PRIOR FILING DATE: APRIL 7, 1998
 22 <160> NUMBER OF SEQ ID NOS: 16
 24 <170> SOFTWARE: Microsoft Office 97
 26 <210> SEQ ID NO: 1
 27 <211> LENGTH: 1760
 28 <212> TYPE: DNA
 29 <213> ORGANISM: Glycine max
 31 <400> SEQUENCE: 1
 32 ctcttcttta ttcttttgt aatttcattc attcttaatc tttgtgaaaa ataatgttca 60
 33 tcgagaattt taaggttgag tgcctaattg tgaagtacac cgagactgag attcagtcgg 120
 34 tgtacaacta cgaaaccacc gaacttggtc acgagaacag gaatggcacc tatcagtgga 180
 35 ttgtcaaacc caaatctgtc aaatacgaat ttaaaaccaa catccatgtt cctaaattag 240
 36 gggtaattgct tgtgggttgg ggtggaaaca acggctcaac cctcaccggg ggtgttattg 300
 37 ctaaccgaga gggcatttca tgggctacaa aggacaagat tcaacaagcc aattactttg 360
 38 gctccctcac ccaagcctca gctatccgag ttgggtcctt ccaggggagag gaaatctatg 420
 39 ccccatccaa gagcctgctt ccaatggtta accctgacga catttgtgtt gggggatggg 480
 40 atatcagcaa catgaacctg gctgatgccg tggccagggc aaaggtgtt gacatcgatt 540
 41 tgcagaagca gttgaggcct tacatggaat ccatgcttcc actccccgga atctatgacc 600
 42 cggatttcat tgctgccaac caagaggagc gtgccaaaca cgtcatcaag ggcacaaagc 660
 43 aagagcaagt tcaacaaatc atcaaaagaca tcaaggcggt taaggaagcc accaaagtgg 720
 44 acaaggtggt tgtactgtgg actgccaaac cagagaggtg cagtaatttg gttgtgggcc 780
 45 ttaatgacac catggagaat ctcttggtcg ctgtggacag aaatgaggct gagatttctc 840
 46 ctccacctt gtatgccatt gcttgtgtta tggaaaatgt tcttttcatt aatggaagcc 900
 47 ctccagaacac ttttgtacca gggtgattg atcttgccat cgcgaggac actttgattg 960
 48 gtggagatga cttcaagagt ggtcagacca aaatgaaatc tgtgttggtt gatttccttg 1020
 49 tgggggctgg tatcaagcca acatctatag tcagttacaa ccatctggga aacaatgatg 1080
 50 gtatgaatct ttgggtcca caaactttcc gttccaagga aatctccaag agcaacggtt 1140
 51 ttgatgatat ggtcaacagc aatgccatcc tctatgagcc tggatgaacat ccagaccatg 1200
 52 ttgttggtat taagtatgtg cttacgtag gggacagcaa gagagccatg gatgagtaca 1260
 53 ctccagagat attcatgggt ggaaagagca ccattgtttt gcacaacaca tgcgaggatt 1320
 54 cctcttagc tgctcctatt atcttggtgact tggctccttct tgctgagctc agcactagaa 1380

RAW SEQUENCE LISTING

DATE: 06/04/2002

PATENT APPLICATION: US/10/025,003

TIME: 12:53:42

Input Set : A:\BB1077uscnt seq listing.txt

Output Set: N:\CRF3\06042002\J025003.raw

```

55 tcgagtttaa agctgaaaat gagggaaaat tccactcatt ccacccagtt gctaccatcc 1440
56 tcagctacct caccaaggct cctctggttc caccgggtac accagtgggtg aatgcattgt 1500
57 caaagcagcg tgcaatgctg gaaaacataa tgagggcttg tgttggattg gccccagaga 1560
58 ataacatgat tctcgagtac aagtgaagca tgggaccgaa gaataatata gttggggtag 1620
59 cctagctgaa tgttttatgt taataatatg tttgcttata attttgcaag tgtaattgaa 1680
60 tgcattcagct tcattaatgc ttttagagcgg ggcatattct gtttactagg aacatgaatg 1740
61 aatgtagtat aattttgtgt                                     1760
63 <210> SEQ ID NO: 2
64 <211> LENGTH: 510
65 <212> TYPE: PRT
66 <213> ORGANISM: Glycine max
68 <400> SEQUENCE: 2
69 Met Phe Ile Glu Asn Phe Lys Val Glu Cys Pro Asn Val Lys Tyr Thr
70   1           5           10           15
72 Glu Thr Glu Ile Gln Ser Val Tyr Asn Tyr Glu Thr Thr Glu Leu Val
73           20           25           30
75 His Glu Asn Arg Asn Gly Thr Tyr Gln Trp Ile Val Lys Pro Lys Ser
76           35           40           45
78 Val Lys Tyr Glu Phe Lys Thr Asn Ile His Val Pro Lys Leu Gly Val
79           50           55           60
81 Met Leu Val Gly Trp Gly Asn Asn Gly Ser Thr Leu Thr Gly Gly
82   65           70           75           80
84 Val Ile Ala Asn Arg Glu Gly Ile Ser Trp Ala Thr Lys Asp Lys Ile
85           85           90           95
87 Gln Gln Ala Asn Tyr Phe Gly Ser Leu Thr Gln Ala Ser Ala Ile Arg
88           100          105          110
90 Val Gly Ser Phe Gln Gly Glu Glu Ile Tyr Ala Pro Phe Lys Ser Leu
91           115          120          125
93 Leu Pro Met Val Asn Pro Asp Asp Ile Val Phe Gly Gly Trp Asp Ile
94           130          135          140
96 Ser Asn Met Asn Leu Ala Asp Ala Met Ala Arg Ala Lys Val Phe Asp
97 145           150           155           160
99 Ile Asp Leu Gln Lys Gln Leu Arg Pro Tyr Met Glu Ser Met Leu Pro
100           165           170           175
102 Leu Pro Gly Ile Tyr Asp Pro Asp Phe Ile Ala Ala Asn Gln Glu Glu
103           180          185          190
105 Arg Ala Asn Asn Val Ile Lys Gly Thr Lys Gln Glu Gln Val Gln Gln
106           195          200          205
108 Ile Ile Lys Asp Ile Lys Ala Phe Lys Glu Ala Thr Lys Val Asp Lys
109           210          215          220
111 Val Val Val Leu Trp Thr Ala Asn Thr Glu Arg Tyr Ser Asn Leu Val
112 225           230           235           240
114 Val Gly Leu Asn Asp Thr Met Glu Asn Leu Leu Ala Ala Val Asp Arg
115           245          250          255
117 Asn Glu Ala Glu Ile Ser Pro Ser Thr Leu Tyr Ala Ile Ala Cys Val
118           260          265          270
120 Met Glu Asn Val Pro Phe Ile Asn Gly Ser Pro Gln Asn Thr Phe Val
121           275          280          285
123 Pro Gly Leu Ile Asp Leu Ala Ile Ala Arg Asn Thr Leu Ile Gly Gly

```

RAW SEQUENCE LISTING

DATE: 06/04/2002

PATENT APPLICATION: US/10/025,003

TIME: 12:53:42

Input Set : A:\BB1077uscnt seq listing.txt

Output Set: N:\CRF3\06042002\J025003.raw

```

124      290      295      300
126 Asp Asp Phe Lys Ser Gly Gln Thr Lys Met Lys Ser Val Leu Val Asp
127 305      310      315      320
129 Phe Leu Val Gly Ala Gly Ile Lys Pro Thr Ser Ile Val Ser Tyr Asn
130      325      330      335
132 His Leu Gly Asn Asn Asp Gly Met Asn Leu Ser Ala Pro Gln Thr Phe
133      340      345      350
135 Arg Ser Lys Glu Ile Ser Lys Ser Asn Val Val Asp Asp Met Val Asn
136      355      360      365
138 Ser Asn Ala Ile Leu Tyr Glu Pro Gly Glu His Pro Asp His Val Val
139      370      375      380
141 Val Ile Lys Tyr Val Pro Tyr Val Gly Asp Ser Lys Arg Ala Met Asp
142 385      390      395      400
144 Glu Tyr Thr Ser Glu Ile Phe Met Gly Gly Lys Ser Thr Ile Val Leu
145      405      410      415
147 His Asn Thr Cys Glu Asp Ser Leu Leu Ala Ala Pro Ile Ile Leu Asp
148      420      425      430
150 Leu Val Leu Leu Ala Glu Leu Ser Thr Arg Ile Glu Phe Lys Ala Glu
151      435      440      445
153 Asn Glu Gly Lys Phe His Ser Phe His Pro Val Ala Thr Ile Leu Ser
154      450      455      460
156 Tyr Leu Thr Lys Ala Pro Leu Val Pro Pro Gly Thr Pro Val Val Asn
157 465      470      475      480
159 Ala Leu Ser Lys Gln Arg Ala Met Leu Glu Asn Ile Met Arg Ala Cys
160      485      490      495
162 Val Gly Leu Ala Pro Glu Asn Asn Met Ile Leu Glu Tyr Lys
163      500      505      510
165 <210> SEQ ID NO: 3
166 <211> LENGTH: 35
167 <212> TYPE: DNA
168 <213> ORGANISM: Artificial Sequence
170 <220> FEATURE:
171 <223> OTHER INFORMATION: Description of Artificial Sequence: synthetic
oligonucleotide
173 <400> SEQUENCE: 3
174 gggaattcca tatgttcacg gagaatttta aggtt 35
176 <210> SEQ ID NO: 4
177 <211> LENGTH: 39
178 <212> TYPE: DNA
179 <213> ORGANISM: Artificial Sequence
181 <220> FEATURE:
182 <223> OTHER INFORMATION: Description of Artificial Sequence: synthetic oligonucleotide
184 <400> SEQUENCE: 4
185 aaggaaaaaa gcggccgctc acttgctacg gagaatcat 39
187 <210> SEQ ID NO: 5
188 <211> LENGTH: 1533
189 <212> TYPE: DNA
190 <213> ORGANISM: Glycine max
192 <400> SEQUENCE: 5
193 atgttcacgc agaattttta ggttgagtgt cctaattgtga agtacaccga gactgagatt 60

```

RAW SEQUENCE LISTING

DATE: 06/04/2002

PATENT APPLICATION: US/10/025,003

TIME: 12:53:42

Input Set : A:\BB1077uscnt seq listing.txt

Output Set: N:\CRF3\06042002\J025003.raw

```

194 cagtccgtgt acaactacga aaccaccgaa cttgttcacg agaacaggaa tggcacctat 120
195 cagtggattg tcaaaccocaa atctgtcaaa tacgaattta aaaccaacat ccatgttcct 180
196 aaattagggg taatgcttgt ggggtggggg ggaaacaacg gctcaaccct caccggtggt 240
197 gttattgcta accgagaggg catttcattg gctacaaagg acaagattca acaagccaat 300
198 tactttggct ccctcaccga agcctcagct atccgagttg ggtccttcca gggagaggaa 360
199 atctatgccc cattcaagag cctgcttcca atggttaacc ctgacgacat tgtgtttggg 420
200 ggatgggata tcagcaacat gaacctggct gatgccatgg ccaggggcaa ggtgtttgac 480
201 atcgatttgc agaagcagtt gaggeettac atggaaatcca tgcctccact ccccggaatc 540
202 tatgaccocg atttcattgc tgccaaccaa gaggagcgtg ccaacaacgt catcaagggc 600
203 acaaagcaag agcaagttca acaaatcatc aaagacatca aggcgtttta ggaagccacc 660
204 aaagtggaca aggtggttgt actgtggact gccaacacag agaggtacag taatttggtt 720
205 gtgggcctta atgacaccat ggagaatctc ttggctgctg tggacagaaa tgaggctgag 780
206 atttctcctt ccaccttgta tgccattgct tgtgttatgg aaaatgttcc ttctattaat 840
207 ggaagccctc agaacacttt tgtaccaggg ctgattgac ttgccatcgc gaggaacact 900
208 ttgattggtg gagatgactt caagagtggg cagacaaaaa tgaaatctgt gttggttgat 960
209 ttccttgtgg gggctggtat caagccaaca tctatagtca gttacaacca tctgggaaac 1020
210 aatgatggta tgaatcttcc ggctccacaa actttccggt ccaaggaaat ctccaagagc 1080
211 aacgttggtg atgatatggt caacagcaat gccatcctct atgagcctgg tgaacatcca 1140
212 gaccatggtt ttgttattaa gtatgtgcct tacgtagggg acagcaatag agccatggat 1200
213 gagtacactt cagagatatt catgggtgga aagagcacca ttgttttgca caacacatgc 1260
214 gaggattccc tcttagctgc tctattatc ttggacttgg tcttcttgc tgagctcagc 1320
215 actagaatcg agtttaaagc tgaaaatgag ggaaaattcc actcattcca cccagttgct 1380
216 accatcctca gctacctcac caaggctcct ctggttccac cgggtacacc agtgggtgaat 1440
217 gcattgtcaa agcagcgtgc aatgctggaa aacataatga gggcttgtgt tggattggcc 1500
218 ccagagaata acatgattct cgagtacaag tga 1533

```

220 <210> SEQ ID NO: 6

221 <211> LENGTH: 510

222 <212> TYPE: PRT

223 <213> ORGANISM: Glycine max

225 <400> SEQUENCE: 6

```

226 Met Phe Ile Glu Asn Phe Lys Val Glu Cys Pro Asn Val Lys Tyr Thr
227   1           5           10           15
229 Glu Thr Glu Ile Gln Ser Val Tyr Asn Tyr Glu Thr Thr Glu Leu Val
230           20           25           30
232 His Glu Asn Arg Asn Gly Thr Tyr Gln Trp Ile Val Lys Pro Lys Ser
233           35           40           45
235 Val Lys Tyr Glu Phe Lys Thr Asn Ile His Val Pro Lys Leu Gly Val
236           50           55           60
238 Met Leu Val Gly Trp Gly Gly Asn Asn Gly Ser Thr Leu Thr Gly Gly
239   65           70           75           80
241 Val Ile Ala Asn Arg Glu Gly Ile Ser Trp Ala Thr Lys Asp Lys Ile
242           85           90           95
244 Gln Gln Ala Asn Tyr Phe Gly Ser Leu Thr Gln Ala Ser Ala Ile Arg
245           100          105          110
247 Val Gly Ser Phe Gln Gly Glu Glu Ile Tyr Ala Pro Phe Lys Ser Leu
248           115          120          125
250 Leu Pro Met Val Asn Pro Asp Asp Ile Val Phe Gly Gly Trp Asp Ile
251           130          135          140
253 Ser Asn Met Asn Leu Ala Asp Ala Met Ala Arg Ala Lys Val Phe Asp

```

RAW SEQUENCE LISTING

DATE: 06/04/2002

PATENT APPLICATION: US/10/025,003

TIME: 12:53:42

Input Set : A:\BB1077uscnt seq listing.txt

Output Set: N:\CRF3\06042002\J025003.raw

```

254 145          150          155          160
256 Ile Asp Leu Gln Lys Gln Leu Arg Pro Tyr Met Glu Ser Met Leu Pro
257          165          170          175
259 Leu Pro Gly Ile Tyr Asp Pro Asp Phe Ile Ala Ala Asn Gln Glu Glu
260          180          185          190
262 Arg Ala Asn Asn Val Ile Lys Gly Thr Lys Gln Glu Gln Val Gln Gln
263          195          200          205
265 Ile Ile Lys Asp Ile Lys Ala Phe Lys Glu Ala Thr Lys Val Asp Lys
266          210          215          220
268 Val Val Val Leu Trp Thr Ala Asn Thr Glu Arg Tyr Ser Asn Leu Val
269 225          230          235          240
271 Val Gly Leu Asn Asp Thr Met Glu Asn Leu Leu Ala Ala Val Asp Arg
272          245          250          255
274 Asn Glu Ala Glu Ile Ser Pro Ser Thr Leu Tyr Ala Ile Ala Cys Val
275          260          265          270
277 Met Glu Asn Val Pro Phe Ile Asn Gly Ser Pro Gln Asn Thr Phe Val
278          275          280          285
280 Pro Gly Leu Ile Asp Leu Ala Ile Ala Arg Asn Thr Leu Ile Gly Gly
281          290          295          300
283 Asp Asp Phe Lys Ser Gly Gln Thr Lys Met Lys Ser Val Leu Val Asp
284 305          310          315          320
286 Phe Leu Val Gly Ala Gly Ile Lys Pro Thr Ser Ile Val Ser Tyr Asn
287          325          330          335
289 His Leu Gly Asn Asn Asp Gly Met Asn Leu Ser Ala Pro Gln Thr Phe
290          340          345          350
292 Arg Ser Lys Glu Ile Ser Lys Ser Asn Val Val Asp Asp Met Val Asn
293          355          360          365
295 Ser Asn Ala Ile Leu Tyr Glu Pro Gly Glu His Pro Asp His Val Val
296          370          375          380
298 Val Ile Lys Tyr Val Pro Tyr Val Gly Asp Ser Asn Arg Ala Met Asp
299 385          390          395          400
301 Glu Tyr Thr Ser Glu Ile Phe Met Gly Gly Lys Ser Thr Ile Val Leu
302          405          410          415
304 His Asn Thr Cys Glu Asp Ser Leu Leu Ala Ala Pro Ile Ile Leu Asp
305          420          425          430
307 Leu Val Leu Leu Ala Glu Leu Ser Thr Arg Ile Glu Phe Lys Ala Glu
308          435          440          445
310 Asn Glu Gly Lys Phe His Ser Phe His Pro Val Ala Thr Ile Leu Ser
311          450          455          460
313 Tyr Leu Thr Lys Ala Pro Leu Val Pro Pro Gly Thr Pro Val Val Asn
314 465          470          475          480
316 Ala Leu Ser Lys Gln Arg Ala Met Leu Glu Asn Ile Met Arg Ala Cys
317          485          490          495
319 Val Gly Leu Ala Pro Glu Asn Asn Met Ile Leu Glu Tyr Lys
320          500          505          510
322 <210> SEQ ID NO: 7
323 <211> LENGTH: 16
324 <212> TYPE: DNA
325 <213> ORGANISM: Artificial Sequence

```

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/025,003

DATE: 06/04/2002

TIME: 12:53:43

Input Set : A:\BB1077uscnt seq listing.txt

Output Set: N:\CRF3\06042002\J025003.raw

L:13 M:270 C: Current Application Number differs, Replaced Application Number
L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:17 M:256 W: Invalid Numeric Header Field, Wrong Prior FILING DATE:YYYY-MM-DD
L:20 M:256 W: Invalid Numeric Header Field, Wrong Prior FILING DATE:YYYY-MM-DD